

**Draft  
Environmental Assessment**

**For Olde Stone Quarry Park Harbor of Refuge, Door County, WI**

Prepared by:

Wisconsin Department of Natural Resources

Prepared for:

U.S. Fish and Wildlife Service, Region 3

Division of Federal Aid

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## Table of Contents

<b>1. Project Purpose and Need</b>	
1.1 Need .....	1
1.2 Purpose.....	1
1.3 Decisions that Need to be Made.....	2
1.4 Background.....	2
<b>2. Alternatives</b>	
2.1 Alternatives Not Considered for Detailed Analysis.....	3
2.2 Alternatives Carried Forward for Detailed Analysis.....	4
2.2.1 Alternative A (Proposed Action).....	4
2.2.2 Alternative B (No Action) .....	5
2.2.3 Alternative C (Harbor-Eastern Portion of Park).....	5
2.3 Summary of Alternatives .....	6
<b>3. Affected Environment</b>	
3.1 Physical Characteristics .....	6
3.2 Biological Environment .....	
3.2.1 Habitat/Vegetation.....	7
3.2.2 Threatened, Endangered and Candidate Species .....	7
3.2.4 Other Wildlife Species .....	7
3.2.4 Land Use.....	7
3.2.5 Cultural/Paleontological Resources.....	7
3.2.6 Local Socio-Economic Conditions .....	7
<b>3. Environmental Consequences</b>	
4.1 Impacts Common to All Action Alternatives .....	8
4.2 Alternative A (Preferred Action)	
4.2.1 Habitat/Biological Impacts .....	8
4.2.2 Cultural Resources.....	8
4.2.3 Social Concerns .....	9
4.2.4 Cumulative Impacts.....	9
4.3 Alternative B (No Action)	
4.3.1 Habitat/Biological Impacts .....	9
4.3.2 Cultural Resources.....	9
4.3.3 Social Concerns .....	9
4.3.4 Cumulative Impacts.....	9
4.4 Alternative C (Harbor-Eastern Portion of Park)	
4.4.1 Habitat/Biological Impacts .....	10
4.4.2 Cultural Resources.....	10
4.4.3 Social Concerns .....	10
4.4.4 Cumulative Impacts.....	10
4.5 Summary of Consequences .....	10
<b>5. List of Preparers.....</b>	11
<b>6... Consultation and Coordination .....</b>	11
<b>7... Public Comment on Draft EA and Response .....</b>	11
<b>8... References.....</b>	11
<b>9... Appendix</b>	
Site Plan of Preferred Alternative .....	13

## **Environmental Assessment**

### **Older Stone Quarry Harbor of Refuge, Door County, Wisconsin**

Note to reviewers: This environmental assessment (EA) has been prepared by the Wisconsin Department of Natural Resources to be consistent with the National Environmental Policy Act (NEPA) requirements for environmental review. NEPA requirements are relevant since DNR is seeking federal Sport Fish Restoration funds and will ultimately decide if NEPA and other applicable federal regulations have been met before a funding decision is made. The EA evaluates probable environmental effects and decides on the need for an Environmental Impact Statement (EIS). The EA includes a description of alternatives and the affected environment.

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#### **1. Purpose and Need**

- 1.1. Purpose: The purpose of the Environmental Assessment is to consider various alternatives to improving the safety of the Olde Stone Quarry launch area. A second purpose is to consider expanding the capacity of the launch area.
- 1.2. Need: At present, the Olde Stone Quarry access is a "fair weather" boat launch site with two launch lanes and parking for 30 car/trailer units. The two launch ramps are exposed to Green Bay waters and are oriented to face southwest. During sudden storms, moderate to high winds travel across Green Bay and create heavy wave action along the west side of the Door County peninsula. There is a fetch of approximately 21 miles to the north and 30 miles to the west. Northerly and westerly winds can quickly produce a dangerous wave climate in the immediate area of the launch and can make it hazardous to launch or retrieve boats or simply to seek shelter from the waves. The nearest safe harbors are Egg Harbor 12 miles to the north, Wave Point Marina 9 miles to the south and Sturgeon Bay 4.5 miles to the east. The U.S. Coast guard annually reports over 30 search and rescue sorties (SARs) in this area from recreational boaters in peril due to quick forming storms and high waves. Despite these problems, this site is still a very attractive boater access with hundreds of users taking advantage of this quick access to excellent sport fishing opportunities. Deep water exists close to the shoreline and there is not much sand transport along the shoreline making for excellent fish habitat. The need is two-fold: (a) to provide a protected harbor for boats launching or retrieving from this site and to serve as a temporary safe haven for boats traversing the waters of Green Bay

and (b) expand the capacity of a very popular launch to Green Bay by the construction of additional launch lanes and car/trailer parking.

- 1.3. Decisions that Need to be Made: The U.S. Fish and Wildlife's (USFWS) Regional Director at Fort Snelling, MN, will select an alternative and will determine, based on the facts and recommendations contained herein, whether this Environmental Assessment (EA) is adequate to support a Finding of No Significant Impact decision, or whether an Environmental Impact Statement (EIS) will need to be prepared.
- 1.4. Background: The Olde Stone Quarry park is an approximate 9 acre site located roughly 4 miles northwest of Sturgeon Bay along county highway B. The parcel is owned by the Wisconsin Department of Natural Resources and is leased to Door County for park purposes. The site is a portion of the old Leathem & Smith dolomite quarry on the Niagara escarpment that prospered for a number of years producing initially building stone and eventually crushed stone. Stone products were cut or crushed and then loaded onto barges docked at a large concrete/timber dock extending well into the lake. The quarry was in production in the late 1800's and finally closed in 1944. In addition to the quarrying operation, Peterson Bros. Shipbuilding located two large ground anchors on the shoreline and stretched a 4" diameter steel cable ¼ mile into the lake. This cable was attached to ships that were being produced to test engines at full throttle without contending with waves. The ground anchors and submerged cables remain to this day.

The Department of Natural Resources acquired the property in 1985 and entered into agreement with Door County to operate the site as a park. In 1994, the park was developed with two launch ramps, parking, picnic area and railings for shorefishing on a portion of the concrete capped sheet wall revetment remaining from the quarry operation dock. To increase the amount of usable land along the shoreline for recreation, a portion of County Highway B was relocated to the northeast. Both state and federal funds (SFR) were involved in this development. The deep water depths off of this site and the relative small amount of sand transport along the shoreline make this a very attractive and popular site for sportfishing, both from shore and boats.

A number of discussions on the desirability and feasibility of a harbor of refuge on this site have taken place over the years. Following up on the feasibility study conducted by Coastal Design in 1999, the U.S. Army Corps of Engineers undertook a project management plan in 2001 in anticipation of preparing a feasibility study to construct a harbor of refuge on the western edge of the park in the immediate area of the existing launch ramps. The design goal was to create a harbor of refuge of approximately 3 acres extending lakeward from the shoreline. This would have created enough space for a total of roughly 75 boats in the 20-foot class to raft together in times of inclement weather. This plan was finally abandoned by the county in light of the decreasing prospect of obtaining federal funds for the harbor construction.

## 2 Alternatives

2.1 Alternatives not Considered for Detailed Analysis: A number of alternatives were considered but rejected. These include the following:

- (a) Construct an access protected by breakwater structures at a different location. Constructing a new protected access would require Door County to pursue acquisition of a site along the shores of Green Bay in the vicinity of Sturgeon Bay. The shoreline between Sturgeon Bay and Egg Harbor is a fairly well-developed shoreline. It is not likely that the county would find willing property owners to sell sufficient acreage to develop a launch site and the related parking. The price of waterfront property would also be an inhibiting factor.
- (b) Construct breakwater structures at the present location without expanding the existing access. Constructing the breakwater structures at the existing Stone Quarry site without expanding the number of launch lanes and related parking would not be economically efficient. The existing launch is extremely popular and it would make little sense to provide protected launching without increasing the capacity of the access both in terms of ramps and parking.
- (c) Construction of a large harbor of refuge (3+ acres of protected water) with marina features, e.g. slip rentals. The development of a large harbor with marina features was not further analyzed due to predicted negative environmental impacts such as the loss of a large area of bottom habitat and the County's desire not to compete with private Door County marina operators. There was also a concern that developing a large harbor would have a negative impact on boat wrecks found nearby and offshore.
- (d) Construction of a harbor of refuge on the site of the existing launch ramps (western side of property) with two breakwater structures extending from shore to establish approximately 2.4 to 2.6 acres of protected water. This alternative is the closest to resemble the concept the US Army Corps of Engineers focused on in their preliminary analysis. In this alternative, two preliminary designs were outlined. The first outlined a breakwater structure that would surround approximately 115,000 square feet (2.6 acres) of existing water surface. This breakwater structure would be designed to a height of 6 feet over high water datum with the addition of a concrete structure to provide protection to a height of 10 feet. The second design configuration of the breakwater structure was a breakwater that extended 10 feet above the high water datum resulting in a broader structure at the base. This second configuration created a slightly smaller harbor basin, 106,000 square feet (2.4 acre), but required more fill material into the water and created a larger foot print on the bottom than the first breakwater design alternative. This alternative, irrespective of breakwater design, was abandoned because of the large amounts of fill that would be required and the large footprint on bottom habitat. Lake depths increase rapidly in this area and at the outermost limits, the breakwater structure would be located in water depths of 32-34 feet. Department water regulatory staff shared their concerns with the

county and requested that an alternative be analyzed that would move the breakwater structures and launch ramp complex further to the east on the property.

2.2 Alternatives Carried forward for Detailed Analysis: There are two alternatives that were considered via preliminary engineering and analysis for the development of a harbor of refuge protecting a launch basin. One of the alternatives established a harbor refuge by creating a basin protected by breakwater structures extending into the water from the shoreline on the eastern portion of the property. Modifications to the landside of the harbor would have included the relocation and expansion of the number of ramps and associated parking. The second alternative considered for a harbor of refuge would be to create smaller breakwater structures that would encompass slightly less than .5 acre of existing water surface and excavate a portion of the parkland to create an additional 0.9 acre bringing the total protected launch basin area to 1.4 acres. In addition to the creation of the basin and breakwater structures, the existing 2 lane launch ramp would be relocated and expanded into a 6 lane launch ramp with additional parking.

2.2.1. Alternative A (Proposed Action): A harbor of refuge at the present location of the existing unprotected 2 launch lanes would be created by constructing two breakwater structures attached to the existing shoreline. The combined lineal footage of the breakwater structures will be 200 feet. The breakwater structures are designed to provide a 6-foot height over high water datum. In addition a concrete barrier will be placed on the top of the breakwater structure to protect against overtopping to a height of 10 feet. The construction of the structures will require the placement of approximately 4,800 cubic yards of material. These breakwater structures will encompass approximately 20,000 square feet of existing water surface. The balance of the harbor basin will be constructed by the blasting and excavation of approximately 43,000 cubic yards of limestone materials from the existing parkland. Blasting will be undertaken by an insured blasting firm that will monitor and be responsible for any damage to nearby homes as a result of the blasting activity. This excavation will create a basin of approximately 40,000 square feet at a depth of 15 feet. The total combined size of the harbor protected by the breakwater structures will be 60,000 square feet, or 1.4 acres. The vertical backslopes of the basin will be retained by driven steel sheet pile shorewall to prevent sloughing and erosion of the limestone.

The existing two launch lanes would be removed during the excavation and a six lane launch ramp would be constructed that would empty into the protected basin. These launch lanes would be serviced by accessible floating boarding docks. In addition, three sections of floating docks would be located in the basin to give boaters transient dockage in periods of inclement weather. The thirty existing car/trailer parking spots on the east side of County highway B would be relocated with 4 accessible parking stalls designated. A new parking area on the west side of county highway B would be also be developed that would accommodate 60 car/trailer units. This will bring the car/trailer parking

into conformance with county zoning policy of 15 car/trailer stalls for each launch lane.

No change would occur to the existing accessible shorefishing wall in the eastern portion of the park as a result of this proposed harbor development. An additional suspended shorefishing deck will be added to the east of the existing shorewall to expand the shorefishing opportunity.

A retention pond between the two parking areas will be constructed to resolve storm water runoff issues.

Door County has approached the Wisconsin Waterways Commission for a 80% cost sharing grant based on an estimated total of \$4,000,000 from the state's recreational boating facilities (RBF) program. The RBF program is funded by a portion of the formula transfer of state gasoline excise tax. attributed to marine use of gasoline. The Commission has supported the project and provided a grant of \$2,800,000 out of the \$3,200,000 county request understanding that the county will return in succeeding fiscal years to request the remaining \$400,000. The county is seeking the balance of the funding from the Sport Fish Restoration totaling \$800,000.

The county's commitment to the project is to maintain the developed facility in a quality manner for the public to use and enjoy for a 20 year period.

- 2.2.2. Alternative B (No Action): The no action alternative will result in no further development of the Stone Quarry site. The launch will remain an unprotected 2-lane launch ramp. No harbor of refuge will be created. Boaters will continue to utilize the existing facility and take their chances in getting back to the launch site in inclement weather. The only other options for safe temporary harborage will be at locations 12 miles north, 9 miles south or 4.5 miles to the east of the Stone Quarry site. Search and rescue efforts will continue by the U.S. Coast Guard at historical numbers at a cost of \$30,000 - \$40,000. There will be no increase in either boating safety or capacity for launching at the site. There will also be no expansion of the existing shorefishing opportunity at the site.

The sponsor has secured an 80% cost sharing agreement from the state recreational boating facilities program. Failure to receive federal Sport Fish Restoration funds for the project will result in no project activity being undertaken. The spirit of the agreement between the county and the Department is for the Department to assist in securing the necessary funds for the development of the project without the assistance of county funds. The county's commitment to the project is to maintain the developed facility in a quality manner for the public to use and enjoy for a 20 year period.

- 2.2.3. Alternative C: Construct a harbor of refuge on the eastern portion of the park. The breakwater structures would be attached to the existing shoreline and extend lakeward to create a harbor basin of approximately

2.6 acres. To minimize the footprint of the breakwater on the bottom, the breakwater design would create a rubble breakwater structure to a height of 6 feet over high water datum and add a concrete structure to provide protection from over topping waves to a height of 10 feet. The existing launch ramps on the west side of the park would be removed and 6 new launch lanes would be constructed behind the new breakwater structure. The construction of the large western breakwater at this site will remove roughly 50% of the shorefishing opportunity at the existing site.

Additional property to the east of the existing park boundary will have to be acquired to eliminate any riparian issues involved with the construction of the breakwater structures.

At least one retention pond will be constructed to minimize storm water run-off from the paved parking areas.

Communication with Department water regulatory staff indicated that permits for this alternative may be difficult to obtain.

### 2.3 Summary of Alternatives

	Alternative A (preferred)	Alternative B (no action)	Alternative C (harbor-eastern portion of park)
Components	Construct 2 shore-attached breakwaters at existing site creating 20,000 sq. ft. of protected water	Launch site remains as is with no protection	Construct 2 shore attached breakwaters on eastern portion of property creating 115,000 sq. ft. of protected water
	Excavate/blast 40,000 sq. ft. of harbor inland		Construct 6 launch lanes and associated parking
	Construct 6 launch lanes and associated parking		
Estimated total cost	\$4,000,000	\$0	\$4,327,000

## 3 Affected Environment

3.1 Physical Characteristics: The 9-acre site is relatively flat with slopes falling to the south and southwest. It is about 41% vegetated and 59% impervious area consisting mainly of bare dolomite bedrock, gravel and paved surfaces. The existing shoreline is a combination of dolomite and crushed quarry tailing from the processing of the dolomite from the previous quarrying operations. Water quality in the Bay is considered good to excellent. Air is considered excellent. There are no wetlands on the site; bedrock is at or near the surface on most of the site. Some topsoil will have to be added to the site to facilitate landscaping.



### 3.2 Biological Environment:

- 3.2.1 Habitat/Vegetation: The area is now a park-like setting with grass and scattered trees. The dominant tree species is aspen. This site has limited use by terrestrial wildlife. The aquatic habitat for the small mouth fishery is considered the best in the Door County area because of the water depths and bottom surface. The existing site is also well known for the ease of accessibility for shore anglers to take advantage of this quality small mouth fishery. Water quality in the project area is considered good.
- 3.2.2 Threatened, Endangered and Candidate Species: There are no threatened or endangered species nor are they any candidate species on the site.
- 3.2.3 Other Wildlife Species: The predominate fauna consists of migratory birds with gulls considered a nuisance by some.
- 3.2.4 Land Use: Land use in the vicinity is residential, seasonal residential or planned residential. The nearest city to the project site is Sturgeon Bay. Sturgeon Bay lies approximately 4 miles to the southeast of the project site. It covers approximately 4,000 acres and has a population of approximately 9,500.
- 3.2.5 Cultural/Paleontological Resources: Detailed archeological/historical surveys were conducted at the site. There are two documented shipwrecks located in the immediate area of the site. The shipwreck of the *Joseph L Hurd* lies off the shore of the park approximately in the middle of the park site in shallow water. The remains of the *Mueller* are located on the eastern boundary of the park site also in shallow water. Approximately 150 yards of Leathem and Smith docking facilities are located on the eastern boundary of the site. There are two small cribs near the west end of the park. The westernmost crib is largely intact. The eastern crib is badly damaged and partially covered by rocks. There is also a thrust bearing monument from the shipwreck *Mueller* located in the northwest corner of the park site. Lastly there are pieces of iron brackets and steel cable located along the shoreline on the park site.
- 3.2.6 Local Socio-economic conditions: The local economy of the Sturgeon Bay area is currently tourism based. The city is the gateway to the Door County peninsula which is a very popular tourist destination. The community and its environs have a proud tradition of being associated with large commercial shipbuilding and the construction of luxury yachts. Recent economic downturns over the past 10-20 years have seen this vital part of the community's economy wither and be replaced by tourism related developments. Because the ship canal bisecting the city offers access to both Lake Michigan and the Bay of Green Bay, the area benefits economically from active boating and fishing participation. In addition to offering boat access to Green Bay, the affected site also offers opportunity for quality shorefishing.

## 4. Environmental Consequences

#### 4.1 Impacts Common to All Action Alternatives:

A review of Wisconsin's Natural Heritage Inventory has indicated that no federally listed species are present on the site and therefore no listed species will be effected under any of the alternatives.

Contact with the Wyandotte Nation and the Prairie Band of the Potawatomi Nation indicate that they are unaware of any traditional cultural properties or sacred sites in the project vicinity that would be impacted under any of the alternatives.

In 1998, an official Wisconsin State Historical Society Educational Sign was erected at this site documenting the past existence of the Leathem & Smith Stone Quarry. This project will not have an effect on that designation under any of the alternatives. In May of 2004, the Wisconsin State Historical Society completed and signed the "request for SHPO comment and consultation on a Federal Undertaking Form agreeing that this project will have no adverse effect. (Case # 04-0240). The *Hurd*, a wooden passenger steamer eventually converted to a stone barge lays immediately submerged offshore in about 8 feet of water midway along the park's shoreline. The *Mueller* lies immediately offshore in shallow water to the east of the existing park boundary. Remnants of both the sunken vessels lie outside the area of proposed construction under any of the alternatives.

#### 4.2 Alternative A (Proposed Action)

4.2.1 Habitat/Biological Impacts: The on-shore habitat is very limited and will not be further degraded. Minor and temporary fugitive dust and equipment emissions would be generated during construction. Lake depths increase moderately in this nearshore area and at the outermost limits, the breakwater structure would be located in water depths of 14-16 feet. The total footprint of breakwater structures is estimated at approximately 8,960 square feet. There will be some loss of near shore habitat for small mouth bass spawning, but there will be an increase in small mouth bass feeding habitat with the placement of the rubble mound breakwaters. Analysis of the potential for lowered water quality as a result of excavating a major portion of the harbor inland has yielded the finding that no water quality declines will occur. Through the depths of the harbor and the relatively small amount of sand transport have indicated a continual flushing of the harbor without large sedimentation problems.

4.2.2 Cultural Resources: The remains of the *Hurd* lie to the east of the proposed breakwater structures and will not be impacted by construction activities. The remnant cable along the lakeshore will have to be cut in several places to avoid being snagged during excavation so as not to endanger the *Hurd* remnants. The *Mueller* thrust bearing monument will have to be relocated during construction activities. There should be no impact on the westernmost crib structure.

The plans to extend the existing shorefishing opportunity to the east have been modified. Rather than filling over the roughly 25 yards of the westernmost edge of the remnant Leathem and Smith docking structure, a

permanent fishing deck will be suspended over the dock area from shore to avoid any negative impact.

There are concerns about blasting, but all nearby homes will be surveyed and video taped, (foundations and basements) prior to blasting to determine that if any damage occurs because of the blasting, the property owners would be justly compensated. Engineering detail studies have determined that much of the land mass needed to be removed for the inner harbor is gravelly in nature and will not require blasting to the level at first anticipated. Wildlife staff feel there will be no damage to any wildlife species because of the blasting portion of this project.

- 4.2.3 Social Concerns: The county, in cooperation with Department staff, has held a public information meeting on the preferred alternative. The results of the meeting indicated public support for pursuing the preferred alternative. As a result of this alternative, shorefishing opportunity will be expanded; this expansion has received widespread public support because of the current popularity of the site for shorefishing.

One neighbor has registered concerns that County Highway B will be over used and his property values will be decreased.

- 4.2.4 Cumulative Impacts: It is a stated policy of the State of Wisconsin to provide, maintain and improve access to the state's navigable lakes, rivers and streams for the public. Further, the Department of Natural Resources in cooperation with local government is to exercise it's management and regulatory responsibilities to achieve this goal and to assure that it is done consistent with the protection of the public health, safety and welfare, including natural resource protection. The construction of this harbor of refuge and launching area is a step in satisfying that policy.

#### 4.3 Alternative B (No Action)

- 4.3.1 Habitat/Biological Impacts: None. The existing site would not be altered. The fair weather launch would be continue to be used and there would be no alteration in habitat value.

- 4.3.2 Cultural Resources: None. There would be no alteration of the site that would pose a threat to any cultural or historical resources.

- 4.3.3 Social Concerns: Some overcrowding at the existing launch site will occur at peak times. The existing exposed launch ramps will continue to pose a safety hazard to boaters who encounter large waves as they try to get off the lake in periods of sudden storms and inclement weather. Shorefishing opportunity will remain unchanged.

- 4.3.4 Cumulative Impacts: None. There would not be additional launching opportunities and the existing launch opportunities would remain unprotected.

#### 4.4 Alternative C (Construct a harbor of refuge on the eastern portion of the park)

4.4.1 Habitat/Biological Impacts: - The in-shore habitat is very limited and will not be further degraded. Minor and temporary fugitive dust and equipment emissions would be generated during construction. Lake depths increase dramatically in this nearshore area and at the outermost limits, the breakwater structure would be located in water depths of 24-29 feet. The total footprint of breakwater structures is approximately 85,000 square feet. This is a substantially larger footprint than alternative A and would result in approximately 10 times the loss of aquatic habitat on the lake bottom. There would be substantially more rock habitat for bass spawning activities than in alternative A. The lack of significant sand transport and the depth of the harbor would indicate that as a result of the harbor structures that water quality would not decline.

4.4.2 Cultural Resources: There would be no blasting activities required under this alternative. The harbor configuration would be achieved by placing rock in the normal trapezoidal form to form the breakwater structures.

There would be a need for further documentation of the Leathem and Smith dock or a careful design of the shorewall in the harbor area as a major part of the historic dock is in the construction boundary of this alternative.

4.4.3 Social Concerns: There will be a loss of approximately 50% of the existing shorefishing opportunity under this alternative. There will likely be a substantial outcry because of the popularity of the existing site. This will require the sponsor to seek an alternative location and finance construction of a comparable fishing structure.

4.4.4 Cumulative Impacts: Same as alternative A.

#### 4.5 Summary of Consequences

	Alternative A (preferred)	Alternative B (no action)	Alternative C (harbor-eastern portion of park)
Habitat/Biological Resources	No federally listed species; loss of approximately 8,960 sq ft. of bottom habitat; temporary dust and equipment emissions; water quality decline not anticipated	None	No federally listed species; loss of approximately 85,000 sq. ft. of bottom habitat; temporary dust and equipment emissions; water quality decline not anticipated
Cultural Resources	<i>Hurd</i> will not be impacted but will have to cut shoreline cable to prevent possibility of snagging during excavation; redesign shore fishing structure over Leathem and Smith dock remnant; move Mueller thrust bearing	None	Further documentation of Leathem and Smith dock remnant or redesign shorewall to avoid impact on dock remnants; Mueller will not be impacted by construction activities

	monument; tapping and monitoring potential impact from blasting activity.		
Social Concerns	Alternative has public support; shorefishing opportunity will be expanded	Overcrowding will continue; safety issue will remain	Loss of 50% of shorefishing opportunity will cause much public concern
Cumulative Impacts	Construction of harbor will be consistent with policy of Department regarding access	None	Construction of harbor will be consistent with policy of Department regarding access

## 5. List of Preparers

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 Jeff Pagels, Wisconsin Department of Natural Resources at Green Bay, WI,

## 6. Consultation and Coordination with the Public and Others

Kip Pagel, Director of "Save our Shoreline" organization in Door County, WI,  
 Chris Pagels, Water Regulatory Permit Administrator for the Wisconsin Department of Natural Resources at Sturgeon Bay, WI,  
 George Pinney, Director of Door County Parks at Sturgeon Bay, WI  
 David Wentland, Consultant and Principal Design Engineer at Green Bay, WI  
 Doug Rossberg, DNR Upper Green Bay Team Supervisor, Sturgeon Bay, WI  
 Michael Toney, DNR Fisheries Management Supervisor at the Sturgeon Bay, WI DNR Field Office  
 U. S. Army Corps of Engineers  
 U.S. Coast Guard  
 Local fishing clubs  
 Nearby local units of government such as the Town of Sevastopol and the City of Sturgeon Bay

## 7. Public Comment on Draft EIS and Response

This section will be completed after the public comment period.

## 8. References

U.S. Army Corps of Engineers Continuing Authorities Project Fact Sheet, October 11, 2000

Preliminary Assessment: Use of Local Stone and Layout Recommendations, Harbor of Refuge, Olde Stone Quarry, Door County prepared by Coastal Planning and Design, Inc., Green Bay Wisconsin, June 1999

Olde Stone Quarry Park Harbor of Refuge: Analysis of Layout Options prepared by Coastal Planning and Design, Inc., Green Bay Wisconsin, November, 2004

Wisconsin Underwater Archeology Association Report on Leathem & Smith Quarry Site, 1990-1993, Danny Aerts, September 1994

Second Report on the Leathem and Smith Quarry, in Door County, Victoria Dirst, Department of Natural Resources, December 1, 1994

Archeological Investigations at the Leathem and Smith Stone Quarry, Sturgeon Bay, Door County, Andrew J. Jalbert and Michael Kolb PH.D., Stata Morph Geoexploration, Inc., October 2004

## Appendix

### *Site Plan of Preferred Alternative*

